

REMARKS

This application has been reviewed in light of the Office Action dated May 11, 2007. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested.

Claims 1-4, 7-15 and 18 are pending. Claims 4, 7, 15 and 18 have been withdrawn from consideration, as being directed to a non-elected species. Claims 5, 6, 16 and 17 have been canceled, without prejudice or disclaimer of subject matter. Claims 1, 2, 12 and 13 have been amended. Support for the claim changes can be found in the original disclosure, and therefore no new matter has been added. Claims 1-4, 7, 12-15 and 18 are in independent form.

Claims 1, 2, 5, 6, 9-13, 16 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,746,818 (*Yatake*) in view of U.S. Patent No. 6,126,282 (*Oikawa*) and EP 1 029 688 (*Vinals*).

Claims 3, 8 and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Yatake* in view of *Oikawa* and *Vinals* and further in view of U.S. Patent No. 6,655,797 (*Smith et al.*).

Without conceding the propriety of the rejections over the prior art, independent Claims 5, 6, 16 and 17 have been canceled, and independent Claims 1, 2, 12 and 13 have been amended. Applicant submits that the independent claims are allowable over the cited art, for at least the reasons set forth below.

(In the below discussion, features or recitations of Applicants' claimed invention are numbered for convenience.)

Independent Claim 1 recites, *inter alia*, (1-A) that “a width of the scanning area of a liquid having relatively high permeability along the feeding direction is made greater than that of the scanning area of a liquid having relatively low permeability,” and (1-B) that “ejection of the liquid having relatively low permeability onto the scanning area of the reacting liquid ejection orifices is performed during a single scan, and at least for the liquid having relatively high permeability, ejection of the liquid onto a first scanning area, which corresponds to a width of the predetermined amount within the scanning area of the liquid, is performed during two scans, and ejection of the liquid onto a second scanning area other than the first scanning area, within the scanning area of the liquid, is performed during a single scan.”

Independent Claim 2 recites, *inter alia*, (2-A) that “a width of the scanning area of the reacting liquid ejection orifices along the feeding direction is made smaller than that of the scanning area of the ink ejection orifices by a predetermined amount,” and (2-B) that “ejection of the reacting liquid onto the scanning area of the reacting liquid ejection orifices is performed during a single scan, and ejection of the ink onto a first scanning area, which corresponds to a width of the predetermined amount within the scanning area of the ink ejection orifices, is performed during two scans, and ejection of the ink onto a second scanning area other than the first scanning area, within the scanning area of the ink ejection orifices, is performed during a single scan.”

Independent Claim 3 recites, *inter alia*, (3-A) that “a scanning area of the reacting liquid ejection orifices, which has a width corresponding to the (n-a) orifices, and a scanning area of the ink ejection orifices, which has a width corresponding to the (n) ink ejection orifices,” and (3-B) that “ejection of the reacting liquid onto the scanning area of

the reacting liquid ejection orifices is performed during a single scan, and within the scanning area of the ink ejection orifices, ejection of the ink onto respective scanning areas, each of which has a width corresponding to (a) ejection orifices and which are located at respective end portions of the row of ink ejection orifices, is performed during two scans, and ejection of the ink onto a scanning area, which has a width corresponding to (n-a) ejection orifices and is not located at an end portion, is performed during a single scan.”

Thus, to summarize the above-noted features, according to features (1-A), (2-A) and (3-A), the scanning area of the reacting liquid (or liquid having relatively low permeability) ejection orifices is smaller than the scanning area of the ink (or liquid having relatively high permeability) ejection orifices, and according to features (1-B), (2-B) and (3-B), ejection of the reacting liquid (or liquid having relatively low permeability) onto the reacting liquid scanning area is performed during a single scan, and while ejection of the ink (or liquid having relatively high permeability) onto the first area (end area) within the ink scanning area is performed during two scans, ejection of ink onto the second area (center area) within the ink scanning area is performed during a single scan. (Not all of these summarized features are recited in each of Claims 1, 2 and 3.)

Even if, for the sake of argument, *Yatake* be deemed to teach that ink is applied in an overlapping manner onto a reacting liquid which is applied first (see Figs. 2-3), *Yatake* is submitted not to teach or suggest the features (1-B), (2-B) and (3-B) of Applicants’ claimed invention, as is understood to be conceded by the Office Action (page 4, third paragraph).

In addition, *Yatake* is not understood to teach or suggest the features (1-A), (2-A) and (3-A) of Applicants’ claimed invention (pertaining to the relation of widths between

the scanning area of the reacting liquid ejection orifices and the scanning area of the ink ejection orifices). Rather, according to *Yatake's* Fig. 3 the width of the scanning area of the reacting liquid ejection orifices is understood to be the same as (not smaller than) the width of the scanning area of the ink ejection orifices.

Even if, for the sake of argument, *Oikawa* be deemed to teach a magnitude relation between a permeability of ink and a permeability of a reacting liquid, that document is not understood to teach or suggest the features (1-A), (2-A) and (3-A) or the features (1-B), (2-B) and (3-B) of Applicants' claimed invention.

Vinals relates to a printing apparatus and method. Fig. 5 of *Vinals* shows overlapping printing at ends of a row of ink ejection orifices. Even if, for the sake of argument, *Vinals* be deemed to teach that ejection of ink onto a first area (edge area) within an ink scanning area is performed during two scans, and ejection of ink onto a second area (center area) within the ink scanning area is performed during a single scan, *Vinals* is not understood to teach or suggest that while an edge area is printed with a certain liquid in an overlapping manner, an edge area is printed with another liquid without overlapping. Specifically, *Vinals* is not understood to teach or suggest that while an edge area is printed with an ink in an overlapping manner, an edge area is printed with a reacting liquid without overlapping. In other words, construed most charitably, *Vinals* is understood to teach or suggest only that, for all kinds of liquid, while ejection of liquid onto the first area (edge area) within a scanning area is performed during two scans, ejection of liquid onto a second area (center area) within the scanning area is performed during a single scan. Accordingly, *Vinals* is not understood to teach or suggest the features (1-A), (2-A) and (3-A) or the features (1-B), (2-B) and (3-B) of Applicants' claimed invention.

Further, regarding the features (1-B), (2-B) and (3-B) of Applicants' claimed invention, it is Applicants' understanding that the recitation of Claim 3, "wherein ejection of the reacting liquid onto the scanning area of the reacting liquid ejection orifices is performed during a single scan," is not addressed in the Office Action. (This recitation has been added to Claims 1, 2, 12 and 13 in the instant Amendment.) Since the Office Action is understood neither to have considered all of the words of Claim 3 in considering its patentability against the prior art, nor to have alleged that all of the limitations of Claim 3 are taught or suggested by the prior art, it is submitted that the basic requirements of a *prima facie* case of obviousness have not been satisfied and *prima facie* obviousness has not been established with respect to Claim 3. M.P.E.P. 2143, 2143.03.

Independent Claims 12, 13 and 14 are apparatus claims corresponding to independent Claims 1, 2 and 3, respectively. Accordingly, the arguments presented above in support of the patentability of Claims 1, 2 and 3 are deemed to apply also to Claims 12, 13 and 14.

Even if *Smith et al.* be deemed to teach what is alleged in the Office Action, that document is not understood to remedy the above-described deficiencies of *Yatake*, *Oikawa* and *Vinals* with respect to independent Claims 1, 2, 3, 12, 13 and 14.

Since the documents cited in the Office Action, whether taken singly or in combination (even assuming, for the sake of argument, that such combination were permissible), do not teach or suggest all of the elements of any of Applicants' independent claims, those claims are believed allowable over those documents.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as

references against the independent claims herein. These claims are therefore believed patentable over the art of record.

The other claims presented for examination are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each of these dependent claims is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 103, favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

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